



**CALIFORNIA STATE SCIENCE FAIR  
2007 PROJECT SUMMARY**

<b>Name(s)</b> <b>Tanner E. Akol</b>	<b>Project Number</b> <b>J1102</b>
<b>Project Title</b> <b>Hypertension in the Veterinary Office</b>	
<b>Abstract</b> <b>Objectives/Goals</b> In the doctor's office, doctors have had trouble testing some patients' blood pressure because they had been suffering from anxiety during their visit, thus making their blood pressure artificially rise. This has been documented as White Coat Hypertension (WCH). Veterinarians suspect that pets also suffer from WCH. The purpose of this experiment was to determine whether WCH occurs in dogs when they visit the veterinary hospital. The hypothesis was that WCH does exist in dogs in the veterinary hospital. <b>Methods/Materials</b> 22 healthy adult canine volunteers were recruited. Heart rate and systolic blood pressure using Doppler ultrasound technology were measured in their own homes and at a veterinary hospital. Behavioral observations were made. <b>Results</b> 5/22 (23%) dogs had elevated systolic blood pressure at home. 10/22(45%)dogs had elevated blood pressure at the veterinary hospital. Average blood pressures were 134 mmHg at the hospital compared to 123 mmHg at home. Elevated heart rates and behavioral displays of anxiety could be correlated with the hypertension in many, but not all cases. <b>Conclusions/Discussion</b> A significant number of dogs do suffer from anxiety related hypertension in the veterinary hospital. Some dogs with hypertension show elevations in heart rate or appear anxious, but not all. So, you cannot predict which dogs will have blood pressure elevations based on heart rate or behavior. The WCH can be eliminated in about half the dogs by taking the measurement at home , but the other half will still suffer anxiety from the parocedure itself.	
<b>Summary Statement</b> This experiment was designed to determine if anxiety artificially raises the blood pressure of dogs making accurate measurement difficult for a veterinarian.	
<b>Help Received</b> Pacific Veterinary Specialists provided me with the Doppler equipment for testing. Dr. Kelly Akol showed me how to use the Doppler equipment and drove me to test dogs at their homes.	